

**CLAIMS**

1. An ion implantation apparatus comprising:  
an ion source section for generating ions;  
an ion implantation section for implanting said  
ions generated in said ion source section, in a  
substrate;  
a charged particle generator for generating  
charged particles having a charge opposite to that of  
said ions;  
a beam guide section having an inlet aperture for  
accepting said ions from said ion source section, an  
outlet aperture for delivering said ions into said ion  
implantation section, a guide tube extending from said  
inlet aperture to said outlet aperture, and an  
introducing section having an opening thereof in an  
internal surface of said guide tube, for introducing  
said charged particles from said charged particle  
generator into said guide tube; and  
a shield section located between said opening of  
said introducing section and said outlet aperture  
inside said guide tube.

2. The ion implantation apparatus according to  
Claim 1, wherein said shield section comprises a shield  
surface intersecting with straight lines running from  
points on a surface specified by said opening of said  
introducing section to points on a surface of said

substrate to be implanted with the ions, placed in said ion implantation section.

3. The ion implantation apparatus according to  
Claim 1, wherein said shield section comprises a shield  
5 surface extending from the vicinity of the edge of said  
opening to above said opening.

4. The ion implantation apparatus according to  
Claim 1, wherein said shield section comprises a shield  
surface intersecting with straight lines running from  
points on a surface specified by said opening of said  
10 introducing section to points on a surface specified by  
said outlet aperture of said ion beam section.

5. The ion implantation apparatus according to  
Claim 2, wherein said shield section comprises said  
shield surface making an acute angle with the internal  
wall surface of said guide tube and having a flat plate  
15 shape.

6. The ion implantation apparatus according to  
Claim 2, wherein said shield section comprises a flat  
20 plate having said shield surface and placed at an acute  
angle to the internal wall surface of said guide tube,  
and a frame member for supporting said flat plate.